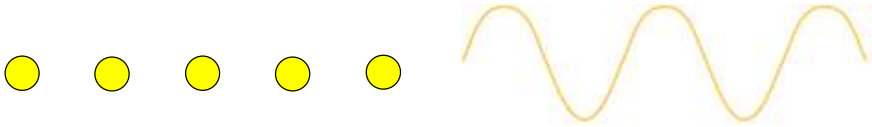
CONCEPT: WAVELENGTH AND FREQUENCY

● Light energy can travel through space as *electromagnetic radiation* in the form of particles or waves.



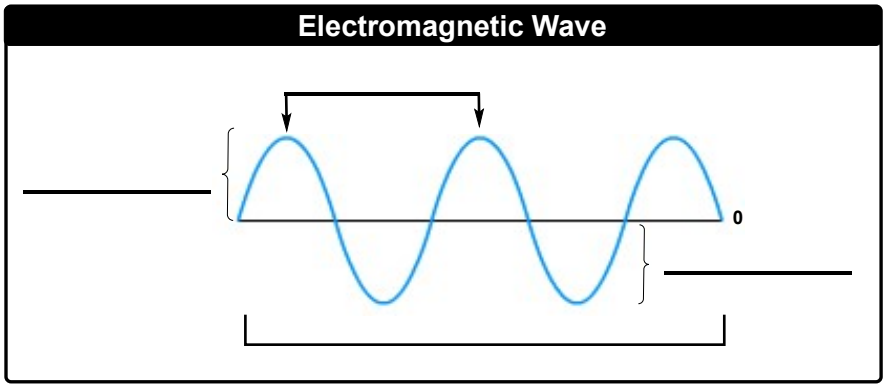
□ **Wavelength** (____ , Greek *lambda*): The distance from one crest or trough of a wave to the next wave.

- It is expressed in units of _____.

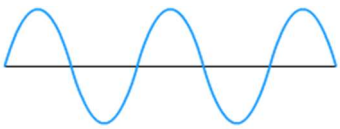
□ **Frequency** (____ , Greek *mu*): The number of waves you have per second.

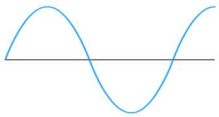
- It is expressed in units of _____ (Hertz).

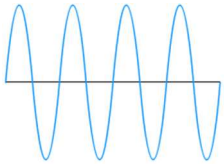
□ **Amplitude**: The height of a wave measured from the origin to its crest or from the origin to its trough.



EXAMPLE: Based on the images given below, which electromagnetic wave has the highest frequency?

I. 

II. 

III. 

Wavelength & Frequency Relationship

● At a fixed speed, the *frequency* of a light wave is _____ proportional to its *wavelength*.

□ _____ frequencies have _____ wavelengths. □ _____ frequencies have _____ wavelengths.

PRACTICE: Which energy wave would have the highest frequency from the wavelengths provided?

a) Wave A (453 nm) b) Wave B (707 nm) c) Wave C (325 nm) d) Wave D (910 nm)